

# FIBER-OPTIC HYDROPHONES FOR GEOPHYSICAL EXPLORATION



A fiber-optic hydrophone towed array system has been developed that uses interferometric devices to detect underwater acoustic signals. This system is also well adapted to geophysical exploration.

System advantage include:

- All-optical wet end; all processing electronics are located aboard the tow platform
- Replacement cost for a damaged streamer is much less than the total system cost; processing electronics can be reused
- Potential for automation of streamer construction
- Fewer electromagnetic interference (EM) problems than conventional systems.

The fiber-optic towed array uses all-fiber interferometric hydrophone devices to detect underwater acoustic signals. Large arrays of these hydrophone devices can be optically multiplexed to form all-optical towed streamers. The streamers are interrogated from the tow platform, no electronics are located in the wet end of the hydrophone system.

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